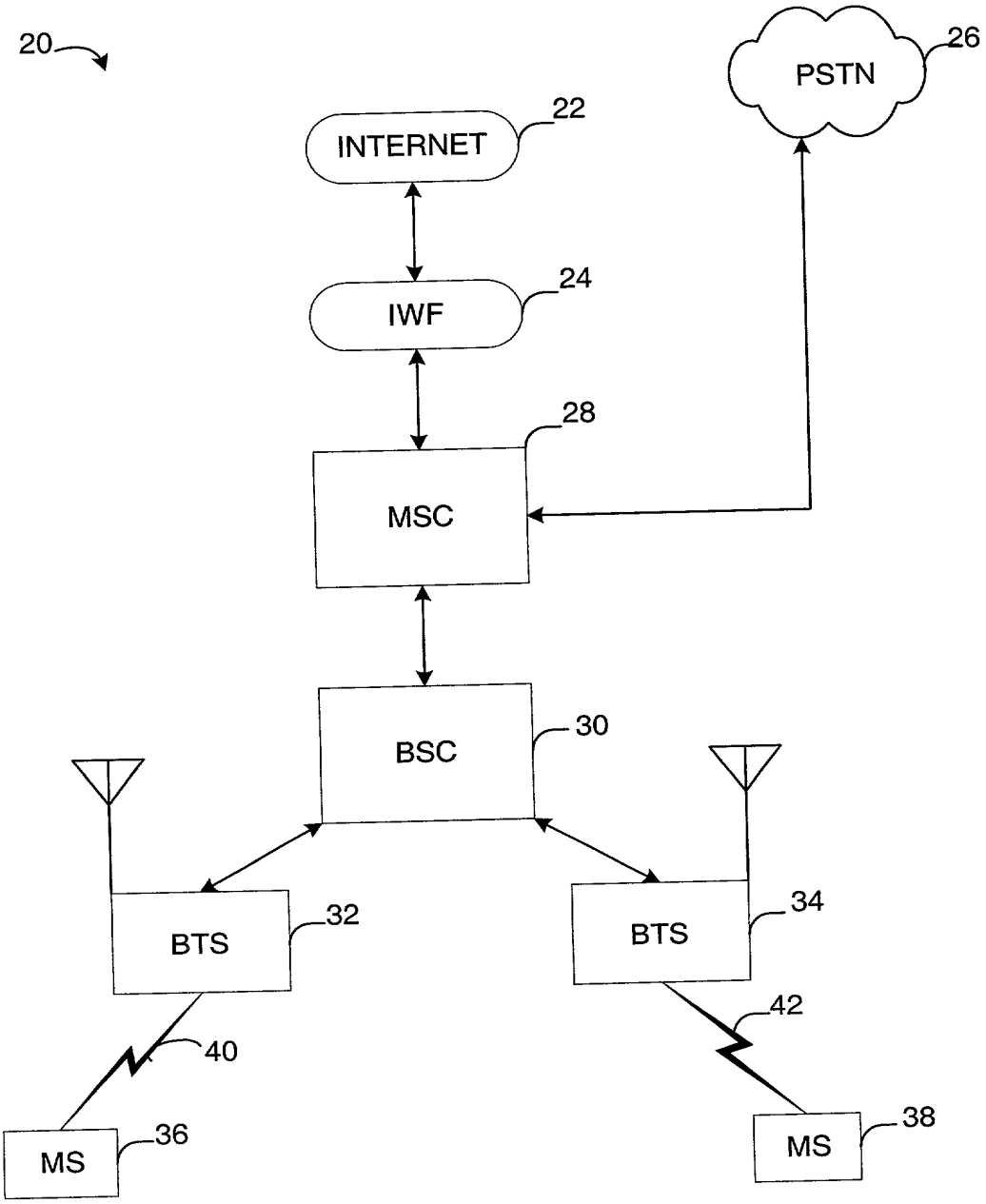
20
PSTN
26
INTERNET
22
IWF
24
MSC
28
BSC
30
BTS
32
BTS
34
40
42
MS
36
MS
38

FIG. 1

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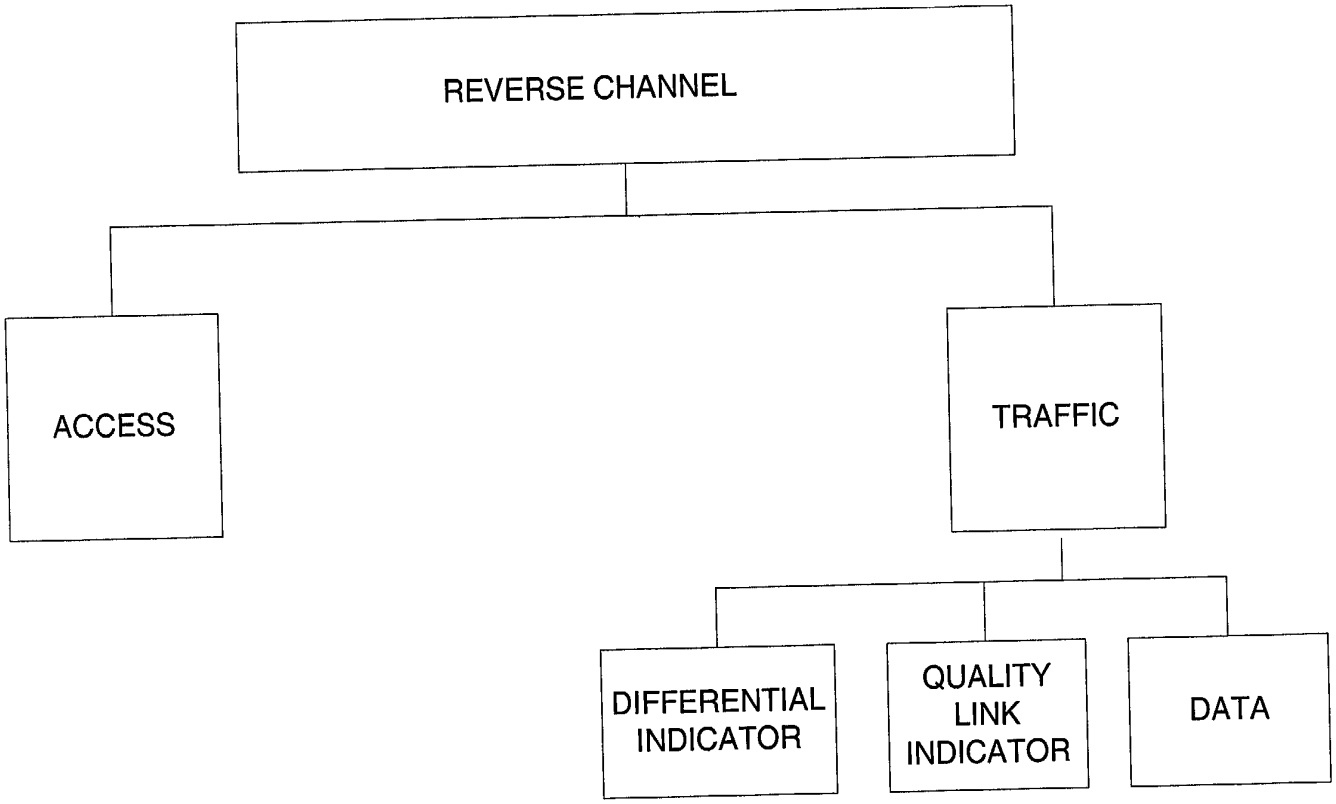


**FIG. 2**

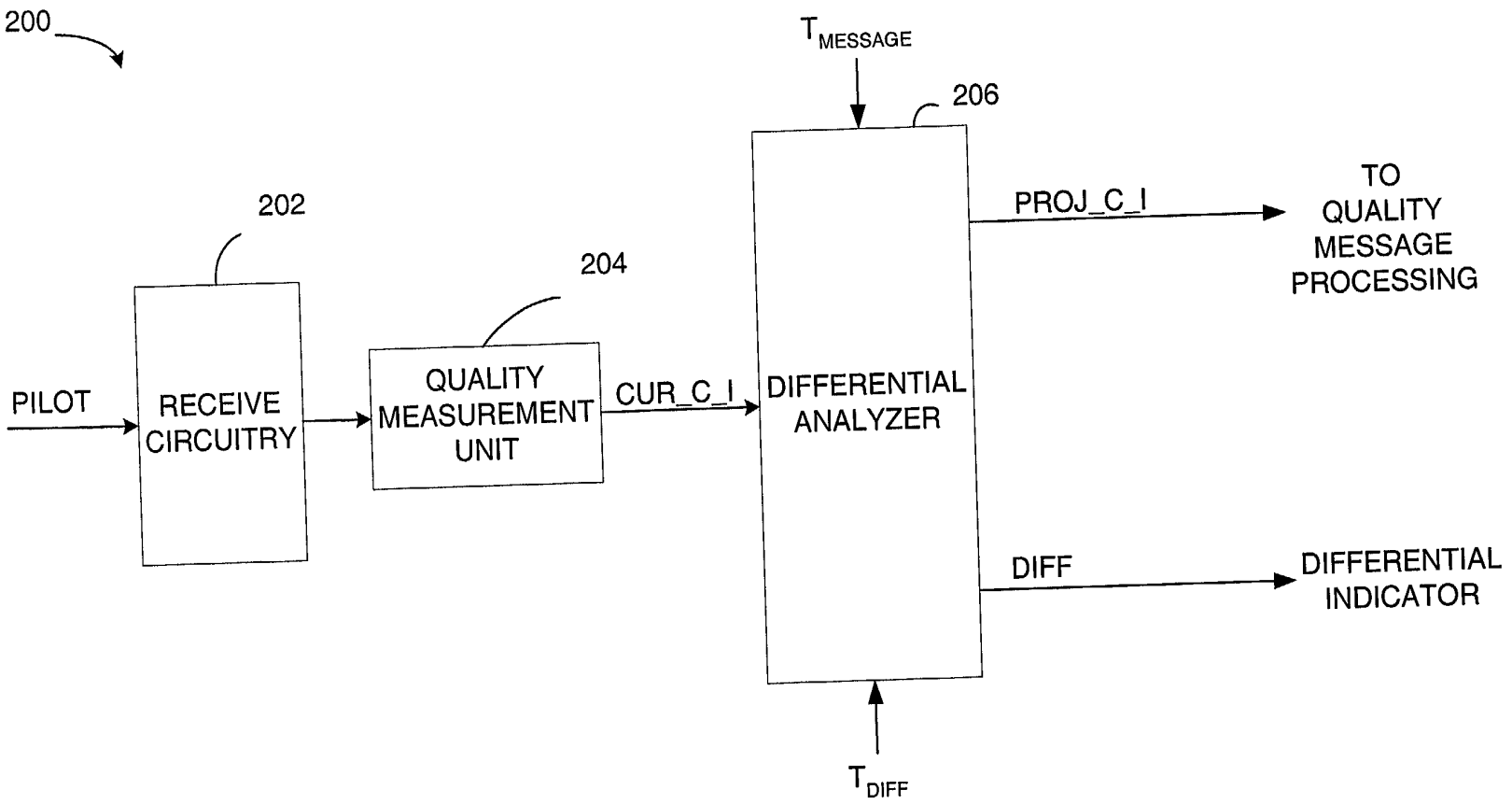
200
$T_{MESSAGE}$
206
202
204
PILOT
RECEIVE CIRCUITRY
QUALITY MEASUREMENT UNIT
CUR_C_I
DIFFERENTIAL ANALYZER
PROJ_C_I
TO QUALITY MESSAGE PROCESSING
DIFF
DIFFERENTIAL INDICATOR
$T_{DIFF}$

FIG. 3A

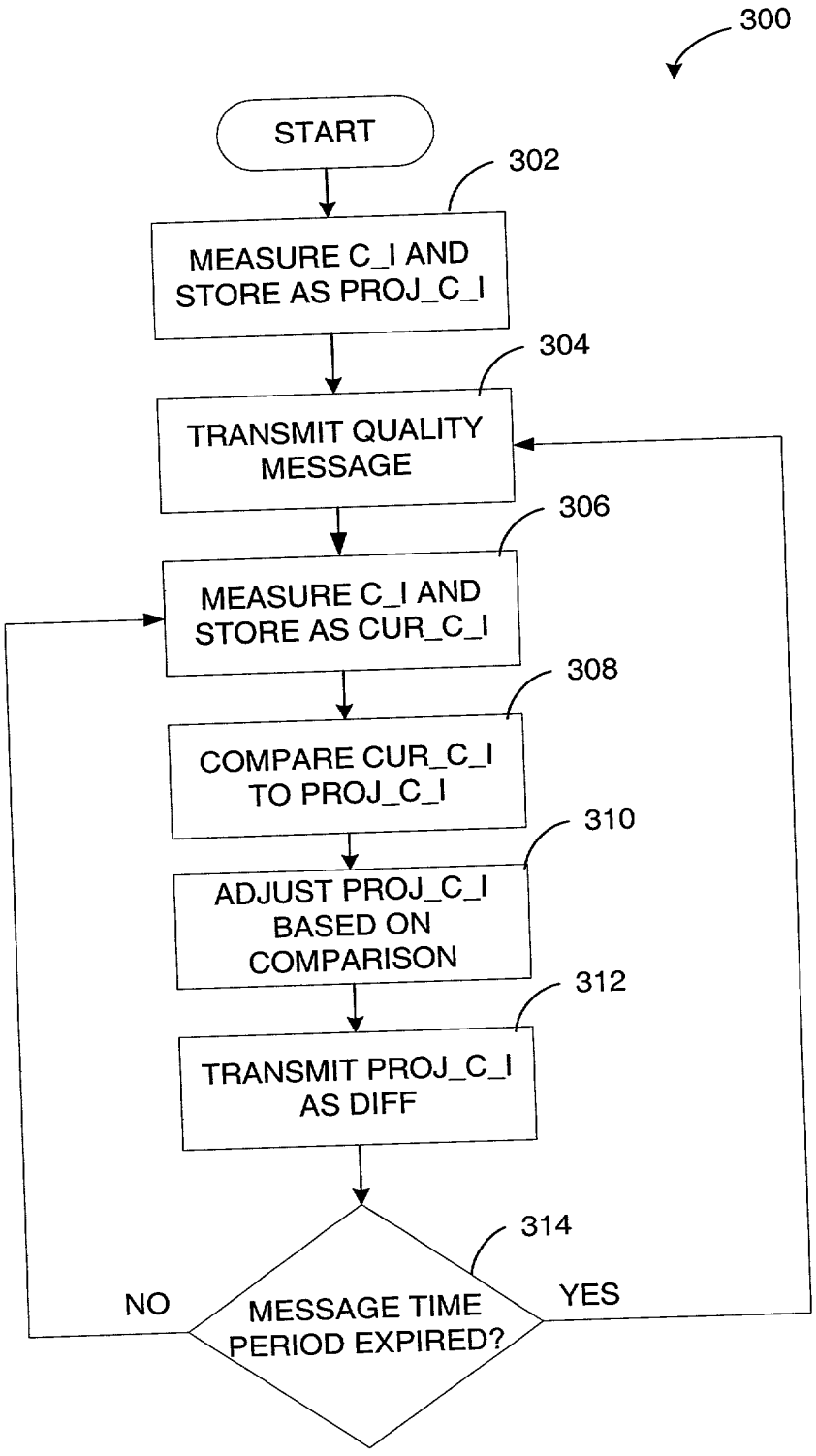
300
START
302
MEASURE C_I AND STORE AS PROJ_C_I
304
TRANSMIT QUALITY MESSAGE
306
MEASURE C_I AND STORE AS CUR_C_I
308
COMPARE CUR_C_I TO PROJ_C_I
310
ADJUST PROJ_C_I BASED ON COMPARISON
312
TRANSMIT PROJ_C_I AS DIFF
314
MESSAGE TIME PERIOD EXPIRED?
NO
YES

FIG. 3B

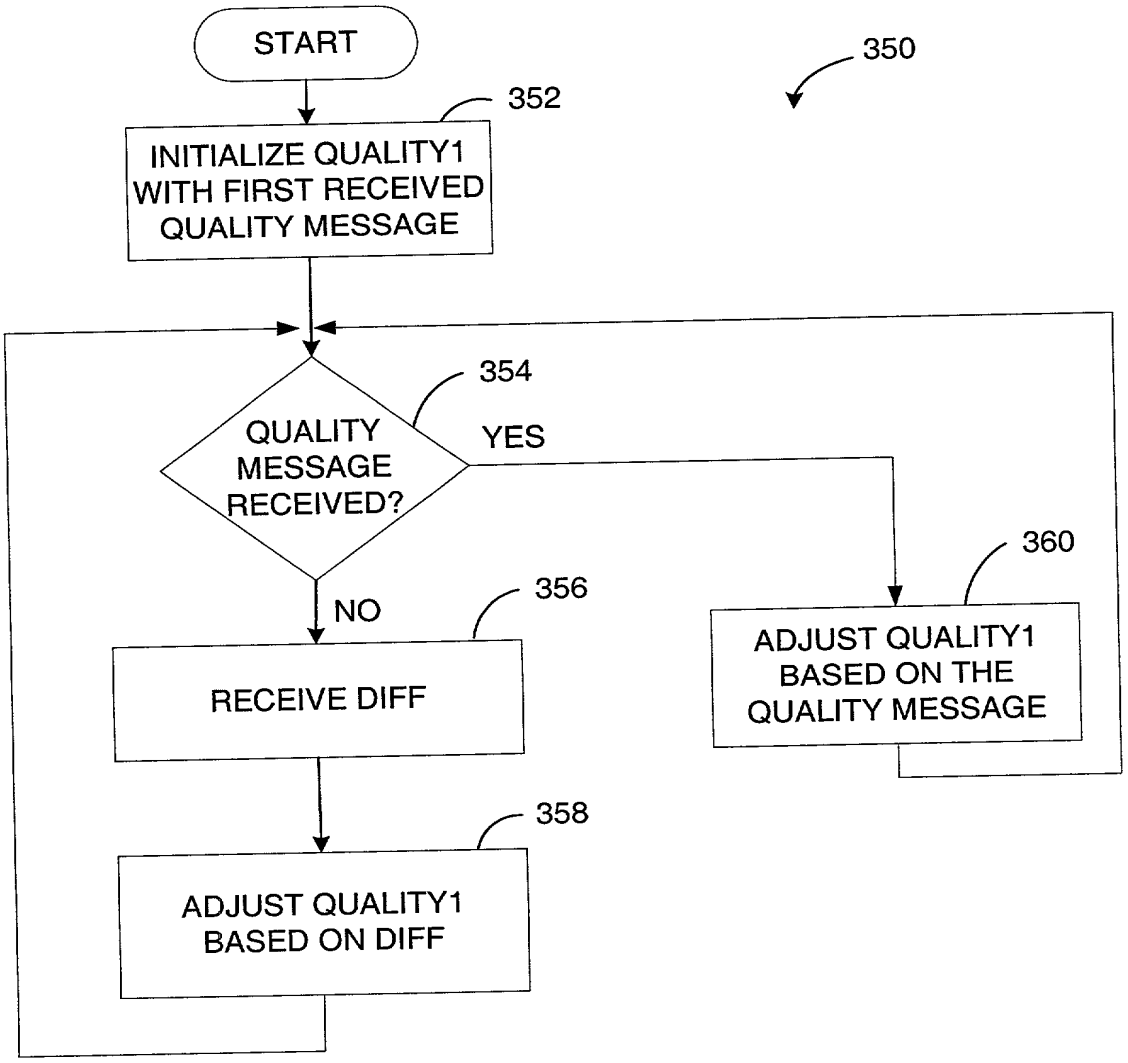
START
350
352
INITIALIZE QUALITY1 WITH FIRST RECEIVED QUALITY MESSAGE
354
QUALITY MESSAGE RECEIVED?
YES
NO
356
RECEIVE DIFF
358
ADJUST QUALITY1 BASED ON DIFF
360
ADJUST QUALITY1 BASED ON THE QUALITY MESSAGE

FIG. 3C

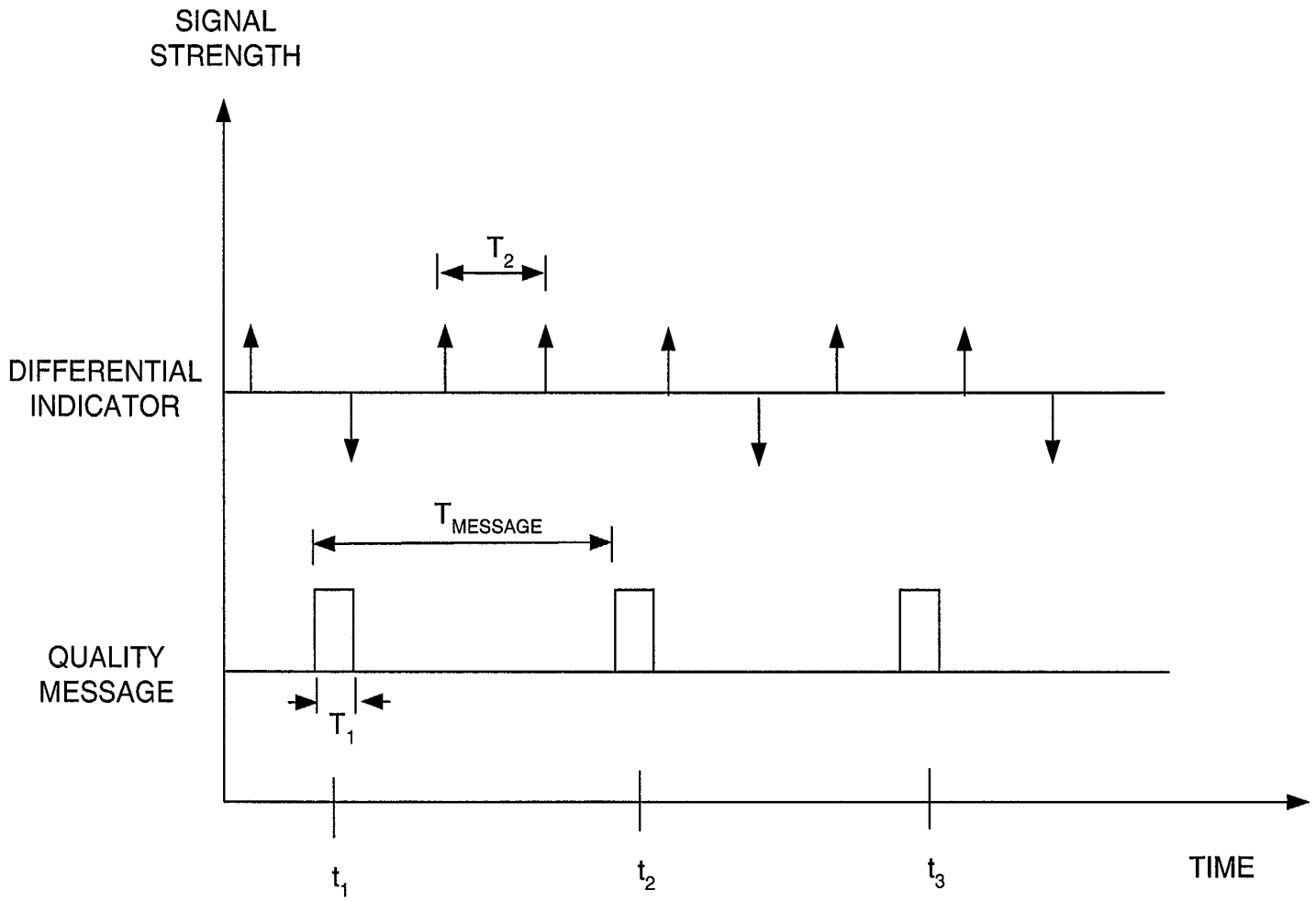
SIGNAL STRENGTH
T2
DIFFERENTIAL INDICATOR
TMESSAGE
QUALITY MESSAGE
T1
t1
t2
t3
TIME

FIG. 3D

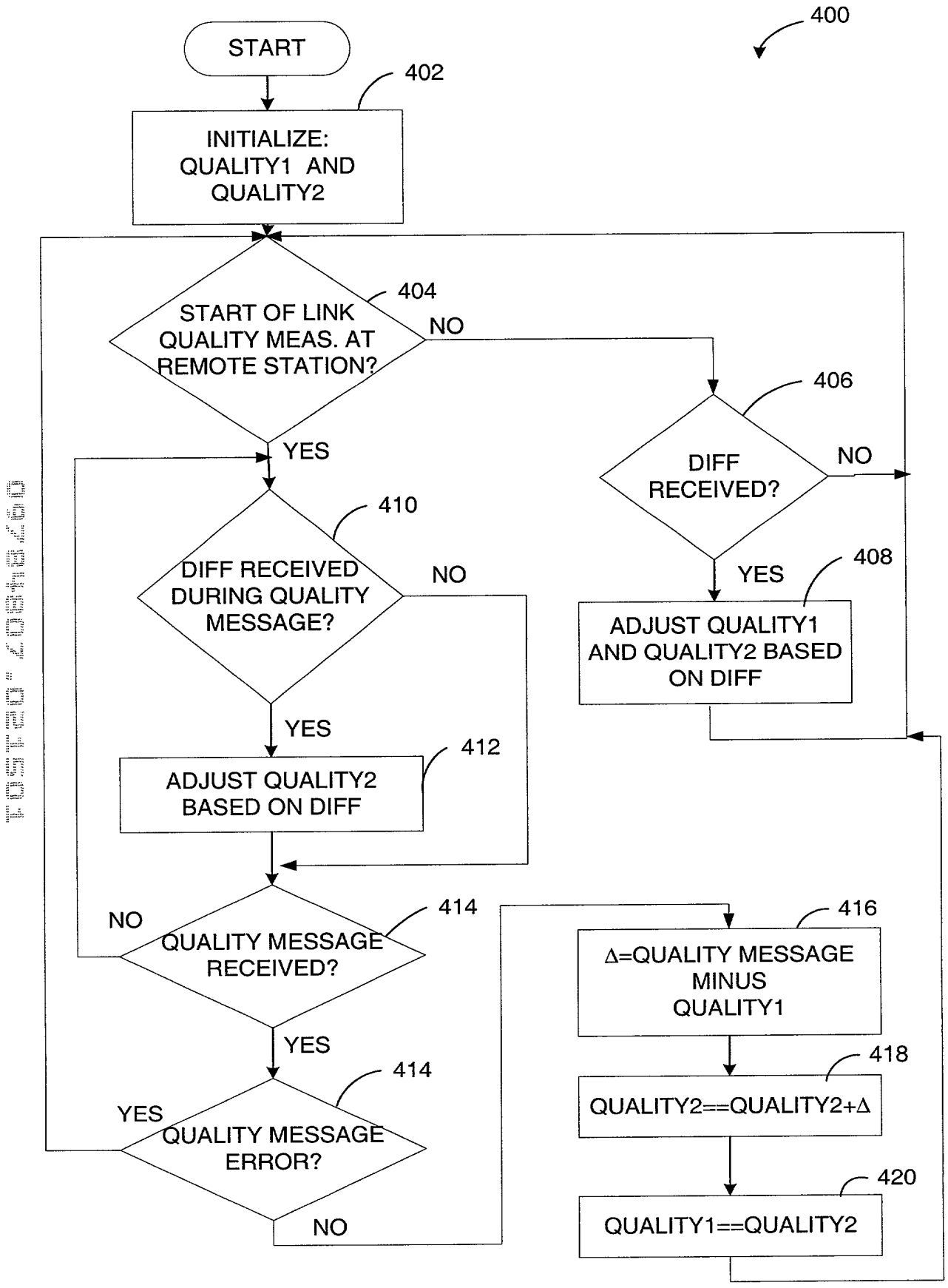
400
START
402
INITIALIZE: QUALITY1 AND QUALITY2
404
START OF LINK QUALITY MEAS. AT REMOTE STATION?
NO
YES
406
DIFF RECEIVED?
NO
YES
408
ADJUST QUALITY1 AND QUALITY2 BASED ON DIFF
410
DIFF RECEIVED DURING QUALITY MESSAGE?
NO
YES
412
ADJUST QUALITY2 BASED ON DIFF
414
QUALITY MESSAGE RECEIVED?
NO
YES
414
QUALITY MESSAGE ERROR?
YES
NO
416
Δ=QUALITY MESSAGE MINUS QUALITY1
418
QUALITY2==QUALITY2+Δ
420
QUALITY1==QUALITY2

FIG. 4A

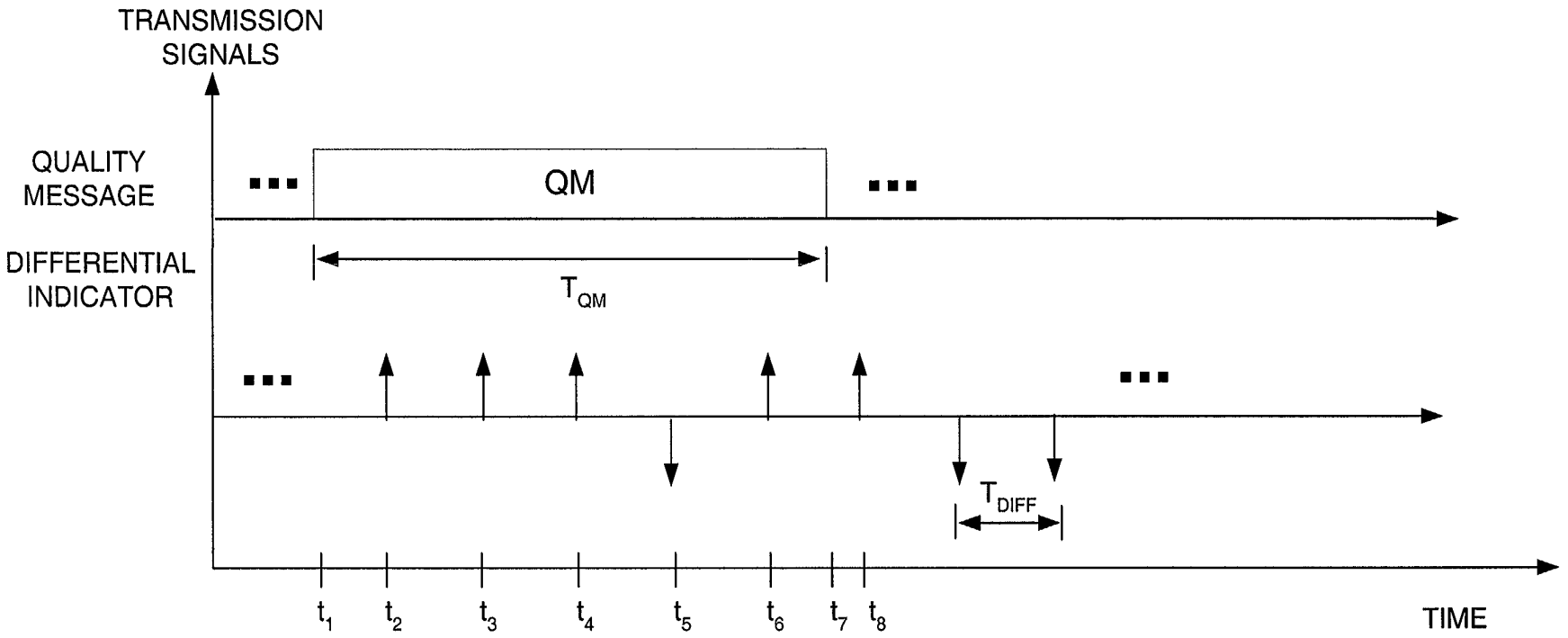


FIG. 4B

| Quality Variable | $t_1$ | $t_2$ | $t_3$ | $t_4$ | $t_5$ | $t_6$ | $t_7$ | $t_8$ |
|---|---|---|---|---|---|---|---|---|
| QUALITY1 | A | A | A | A | A | A | A | B |
| DIFF | -- | +1 | +1 | +1 | (-1) | +1 | -- | +1 |
| QUALITY2 | A | A+1 | A+2 | A+3 | A+2 | A+3 | A+3 | A+4+Δ |

FIG. 4C

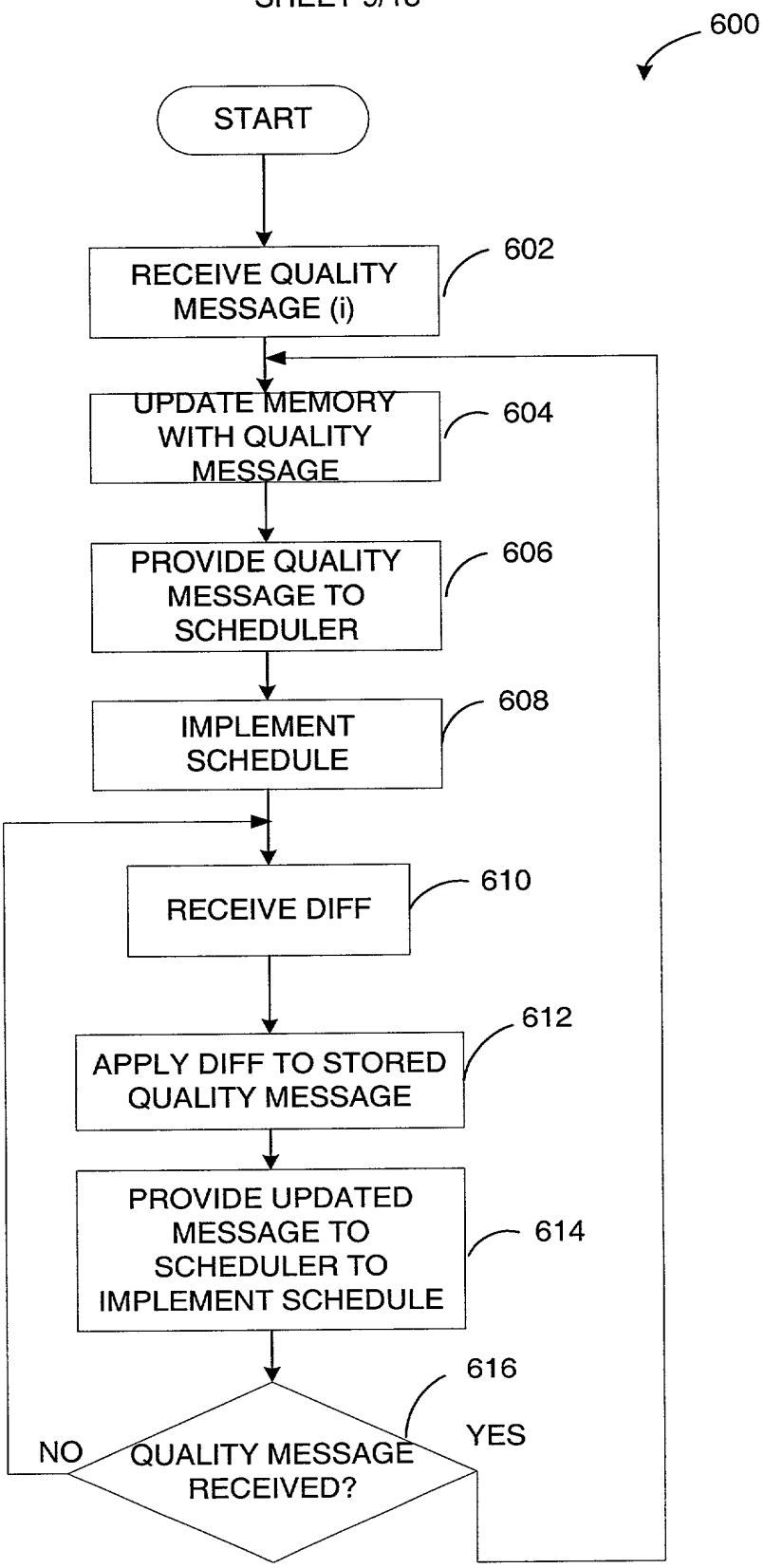
600
START
RECEIVE QUALITY MESSAGE (i)
602
UPDATE MEMORY WITH QUALITY MESSAGE
604
PROVIDE QUALITY MESSAGE TO SCHEDULER
606
IMPLEMENT SCHEDULE
608
RECEIVE DIFF
610
APPLY DIFF TO STORED QUALITY MESSAGE
612
PROVIDE UPDATED MESSAGE TO SCHEDULER TO IMPLEMENT SCHEDULE
614
QUALITY MESSAGE RECEIVED?
616
NO
YES

FIG. 5

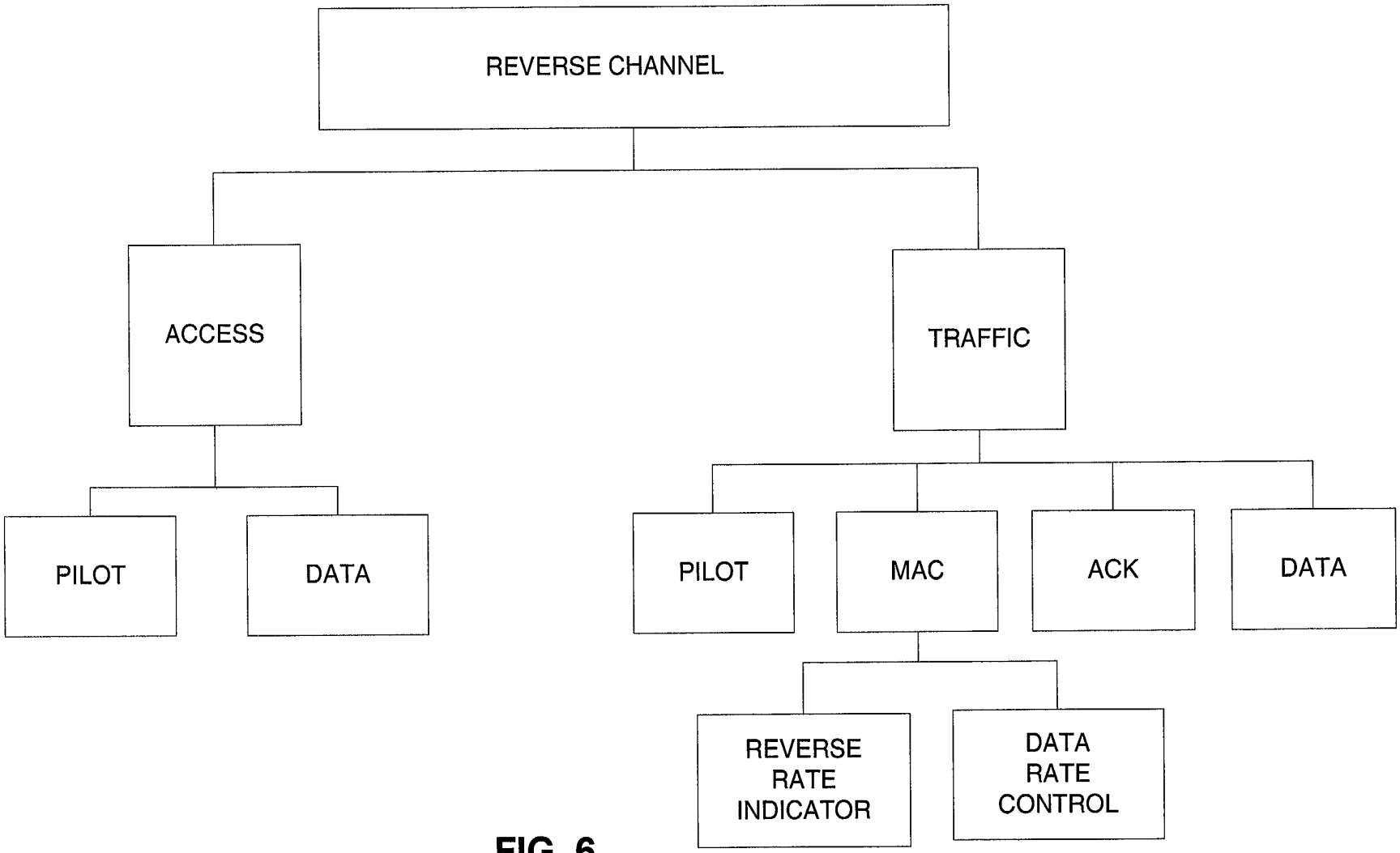
REVERSE CHANNEL
ACCESS
TRAFFIC
PILOT
DATA
PILOT
MAC
ACK
DATA
REVERSE RATE INDICATOR
DATA RATE CONTROL

**FIG. 6**

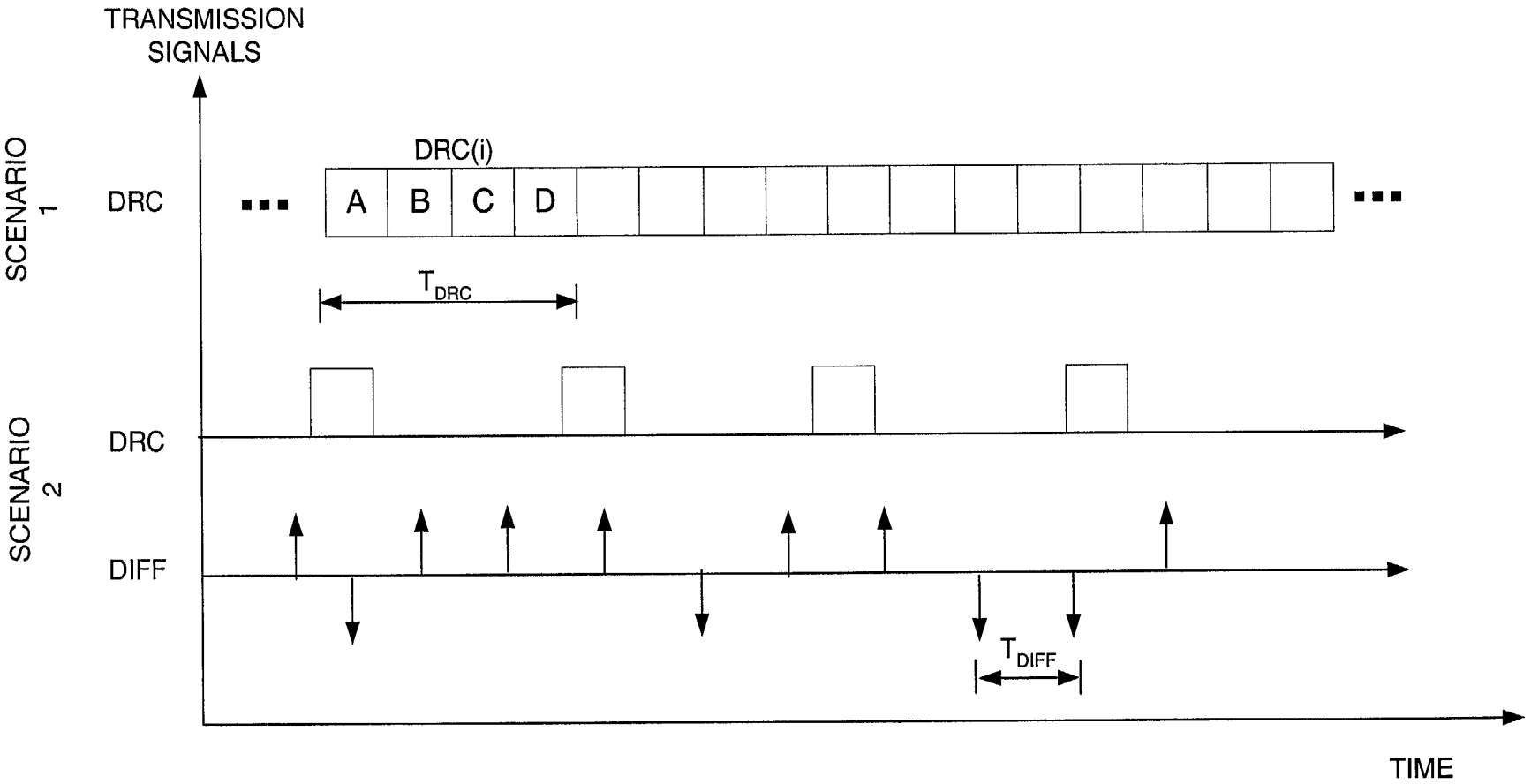
TRANSMISSION SIGNALS
SCENARIO 1
DRC
DRC(i)
A
B
C
D
$T_{DRC}$
SCENARIO 2
DRC
DIFF
$T_{DIFF}$
TIME

FIG. 7

| DRC MESSAGE | RATE (kbps) | PACKET LENGTH (slots) |
|---|---|---|
| 0x0 | null rate | N/A |
| 0x1 | 38.4 | 16 |
| 0x2 | 76.8 | 8 |
| 0x3 | 153.6 | 4 |
| 0x4 | 307.2 | 2 |
| 0x5 | 307.2 | 4 |
| 0x6 | 614.4 | 1 |
| 0x7 | 614.4 | 2 |
| 0x8 | 921.6 | 2 |
| 0x9 | 1228.8 | 1 |
| 0xa | 1228.8 | 2 |
| 0xb | 1843.2 | 1 |
| 0xc | 2457.6 | 1 |
| 0xd | INVALID | N/A |
| 0xe | INVALID | N/A |
| 0xf | INVALID | N/A |

FIG. 8

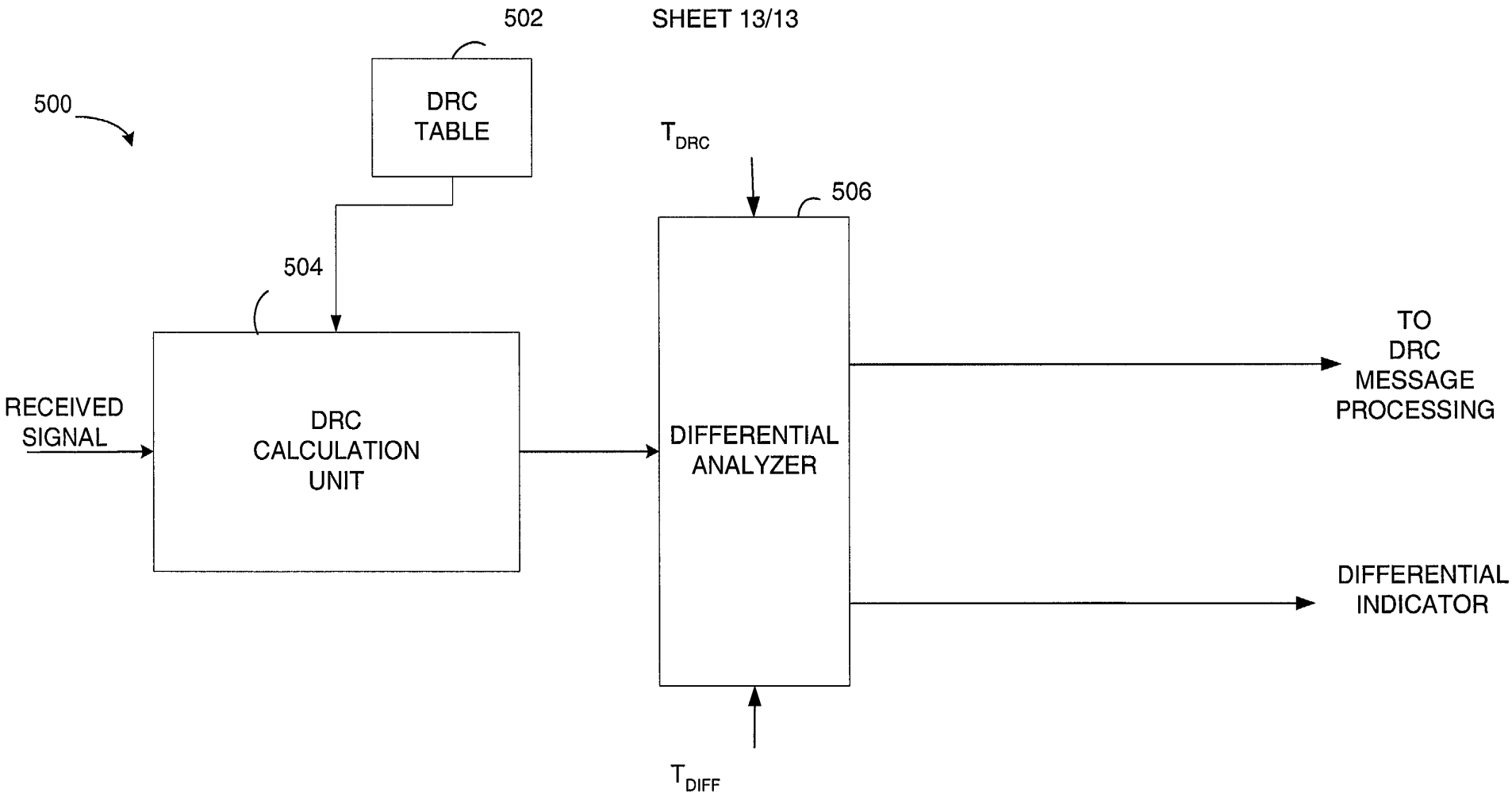
502
500
DRC
TABLE
$T_{DRC}$
506
504
TO
DRC
MESSAGE
PROCESSING
RECEIVED
SIGNAL
DRC
CALCULATION
UNIT
DIFFERENTIAL
ANALYZER
DIFFERENTIAL
INDICATOR
$T_{DIFF}$

FIG. 9